Sand Dune and Shingle Network

Tenth Newsletter, December 2010

NATURAL ENGLAND

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Sand Dune and Shingle Network

Tenth Newsletter, December 2010
Edited by John Houston and Charlotte Durkin

NATURAL ENGLAND

Introduction

Welcome to the tenth newsletter of the Sand Dune and Shingle Network. The newsletter is now being circulated to over 400 contacts in the UK and Europe and we are also developing wider international links.

In October we received support from the Fulbright Senior Scientist Program to fund a visit by Professor Norbert P. Psuty of Rutgers University, New Jersey. Norb spent three weeks with us at Liverpool Hope University supporting the development of the network and he will return in February 2011 to help deliver our Links Golf Symposium (see page 11).

We continue to build our membership and would like to welcome all new members. As we meet many of you through events and conferences we were pleased to be invited to promote our work at the Eurosite Annual General Meeting held in Scotland in September this year.

We were also represented at the Institute of Ecology and Environmental Management (IEEM) autumn conference in Dublin as a shortlisted project in the Tony Bradshaw Best Practice Awards. There was stiff competition and in the end we were delighted to win a runners-up trophy. Although we just lost out to an Environment Agency project we are very happy with our trophy; as they say from little acorns…!

Paul Rooney and Charlotte Durkin recieving award © IEEM

Over the next four months we will be focusing on completing a number of projects, including a review of the delivery of the Sand Dune Habitat Action Plan in England, publishing the report of the Sea Buckthorn workshop held in September 2009 and updating the resources on the website.

Please keep checking the website on www.hope.ac.uk/coast for news and if you can make a link to us please do so as this helps to strengthen network links.

Paul Rooney
Network Director

Network news

The sand dune and shingle network is now four years old. We took time out this summer to consider where we go from here. We have agreed that our aims are;

- To conserve sand dunes and shingle as dynamic landscapes
- To enthuse and encourage people to value and understand the habitats
- To stand up for and champion the habitats
- To facilitate exchange of knowledge and to support good conservation actions
- To make the network an active community of participants with recognised expertise and authority

The establishment of the network has been hugely supported the Higher Education Funding Council for England through its Higher Education Innovation Fund. For over two years we have also been offering a support service to Natural England's coastal team and this has helped us focus on the real issues being addressed by site managers and advisory staff.

Both these funding streams come to an end next year and we have to look to new ways to support the network. There are two main aspects of the network. Firstly, the activities of the network team in maintaining the network and secondly, the network membership itself which is a unique collection of people from across many countries but all with an interest in, and some with a real passion for dune and shingle coasts.

We will do everything we can over the next year to find the resources we need to keep the network going at its current level. To do this we will be approaching statutory agencies, consultancies and grant-making bodies to seek their support for core funding and for specific projects. A little can really go a long way in this type of work and we are confident that we can maintain the quality of our services and outputs.

We have now published the first two of our Occasional Papers and are working on the publication of the Sea Buckthorn workshop held on the east coast of England in September 2009. We would like to invite all our members to make use of the opportunity to publish through the occasional paper series. We think that the series would be ideal for publishing views and discussions which support network activity, from individuals, organisations or groups. Where we think it appropriate we will submit papers for peer review.

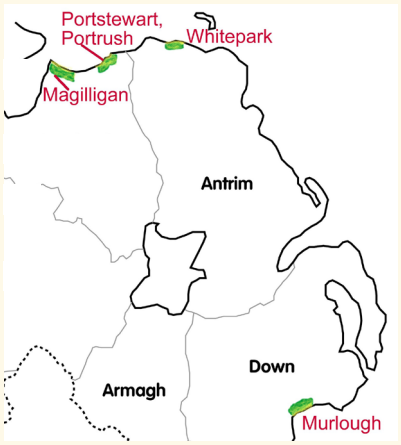
If you have something which could be published through the network please contact us on dunes@hope.ac.uk. We can offer some design and editorial help to finalise a publication.

Report of network event in Northern Ireland

By Charlotte Durkin

We held our first network event in Northern Ireland on 21st and 22nd October 2010. This proved to be a tremendous success with over 35 people taking part, including full UK representation and participants from the Netherlands, Spain and United States. This event was arranged in conjunction with the Northern Ireland Environment Agency (NIEA) and with the support of the University of Ulster and the National Trust.

The aim was to discuss current issues in coastal dune and shingle management in Northern Ireland in relation to biodiversity action plan targets, shoreline management, and multiple uses of dunes including tourism and recreation.



The workshop session was held at the University of Ulster in Coleraine with presentations on aspects of coastal and dune management from NIEA staff, Professor Andrew Cooper and National Trust regional staff. For the field-based part of the programme we were able to visit the dune systems at Portstewart and Magilligan.

Visitor centre at Portstewart © National Trust

Barry Crawford and Phil Davidson of the National Trust led an excursion to Portstewart Strand and dunes. In line with the National Trust's Shifting Shores policy we were shown the construction of a modular visitor centre which can be dismantled and moved in response to coastal change. The dunes are sandwiched between the beach which is a popular recreation site and the Portstewart Golf Club. We noticed the marked difference in dune morphology and beach condition in different zones of the beach where vehicles were either allowed or restricted.

Cattle grazing had been introduced to the main dune system to control the spread of rank grassland and scrub. The dune system is formed partly by the position of the River Bann. The river has been engineered for navigation through dredging and rock armouring and this has led to some problems of dune erosion on the estuary side.

The second day of the event was spent visiting three very different sites within the Magilligan foreland. At Benone beach and dunes we discussed the effects of recreation pressure with Richard Gillen of Limavady Borough Council. The problem of anti-social behaviour (fires, litter and vehicles) in the dunes takes up much management time and he is unable to concentrate as much as he would like on conservation priorities. Some Interreg funding, however, had been used to help develop the network of wheelchair accessible paths and boardwalks which control much of the visitor pressure.

Adjacent to the Benone dune area is the Umbra Nature Reserve managed by Ulster Wildlife Trust. The dunes along this part of Magilligan have been prograding by about 1m a year and the rate has increased over the last 30 years. The site showed a good example of succession from embryo dunes, through dune grassland to dune woodland. The grazing pressure of rabbits and cattle has encouraged the spread of Burnet Rose *Rosa pimpinellifolia*.

Through the Defence Estates conservation team we were given access to the Magilligan Training Centre, one of the largest military training sites in Northern Ireland. The 'footprint' of the military site was not included in the SAC designation and during the visit we learned how the site managers work within this footprint of military activity to provide new training facilities. This is combined with extension of the grazing on much of the site to maintain dune vegetation.

The workshop and study tour helped to focus attention on the conservation of the dune systems of Northern Ireland. Professor Andrew Cooper of the University of Ulster stressed the value of allowing inter-site biodiversity rather than trying to impose common practice. At present no mechanism exists at a country or European level for considering biodiversity between a collection of sites, but stakeholders working together on a system like Magilligan may be able to promote such an approach in the future.

A more detailed note on the workshop prepared by Graham Weaver of Natural England can be found in the events section of the network website. Please have a look.

England Biodiversity Strategy News

The Sand Dune and Shingle Network is a member of the Coastal Biodiversity Integration Group which is part of the delivery mechanism for the England Biodiversity Strategy. The coastal BIG supports the delivery of biodiversity action in England by offering expertise and advice to regional and local biodiversity coordinators and by helping to champion coastal habitats and species within the England Biodiversity Strategy.

Resources and best practice guides

The Coastal Biodiversity Integration Group has compiled a list of coastal reference sources including links to best practice guides and websites. The list is available under the Delivering Biodiversity page on the network website http://www.hope.ac.uk/coast/coastal-big-resources.html

Making Space for Nature

Members of the group have also contributed individually to the Government's review of England's wildlife sites and ecological network. The final report of the review carried out by Professor Sir John Lawton submitted in September 2010 entitled Making Space for Nature can be accessed from http://www.defra.gov.uk/environment/biodiversity/index.htm

The Government will respond to Making Space for Nature in its forthcoming Natural Environment White Paper, to be published in 2011. Although consultations have now closed, see http://ww2.defra.gov.uk/environment/natural/whitepaper/ for information on the background and the process.

UK National Ecosystem Assessment

Laurence Jones of the Centre for Ecology and Hydrology has been coordinating the writing of a chapter on coastal margins. The findings show that sand dunes, machair, saltmarsh, shingle, sea cliffs and lagoons have declined in extent and quality since the Second World War due to development and coastal squeeze.

Whilst we will report on this in our next newsletter a summary update of the process can be found on the NEA website on http://uknea.unep-wcmc.org/ and also on the Defra website at http://ww2.defra.gov.uk/environment/natural/ecosystems-services/.

Inventory of Coastal Vegetated Shingle for England

In 2009-2010 Defra and The National Trust funded a project to create an updated evidence base on the extent and quality of vegetated shingle habitats around the English coast. The project was awarded to the GeoData Institute and Roland Randall and Jonathan Cox consultants and was project-managed by Natural England with the support of a project steering group of relevant organisations and specialists.

The project's principal aim was to collate existing digital data sources, including previous versions of the inventory and to update the extent of the habitat through aerial photo interpretation and references to other digital data where available (e.g LiDAR). Ground-truthing field visits were undertaken at a number of locations selected in conjunction with the project steering group to verify the habitat boundaries, describe shingle vegetation communities and transitions to other habitats and to gather further information about the site such as management activity and current pressures. This information has been summarised in site profiles.

The new inventory layer contains 42.76 km^2 of vegetated shingle habitat and marks an increase in the area of about 7km^2 from the previous inventory, which aimed to capture all locations mapped in the 1990s and highlighted gaps. This is not necessarily a natural increase, as the 2009-2010 inventory added sites (e.g. Solent sites) which were not previously included. Of the 42.76km^2, 38.62 km^2 is designated as SSSI, 34.87 km^2 is Natura 2000 and 10.03 km^2 is within landscape protection (National Trust, AONB, National Parks).

Vegetated shingle was identified in 16 different counties / unitary authorities with the bulk of the area being within Kent (23.25km^2), Suffolk (6.72 km^2), East Sussex (4.07km^2) and Dorset, mainly due to the presence of well known large sites such as Dungeness, Orford Ness, Chesil Beach and Rye Harbour.

The project final report and site profiles will be available from the Natural England website and the GIS data will also be available for download, replacing the earlier version (which will still be available on request). The JNCC website will host digital versions of the out of print 1990s Sneddon and Randall report and Appendices. The detailed classification used by Sneddon and Randall has also been extracted and a cross tabulation created to NVC classes.

Cuckmere shingle © Tim Smith /East Sussex County Council

In addition, the project also developed methodologies for field survey and a revised rule base for the mapping of these habitats. The final report includes these tools and an evaluation of linking species data from the National Biodiversity Network into site profiles.

In terms of forward planning, the evidence base created within this project provides the basis for environmental change analysis and more robust shingle status assessment, especially related to long-term climate change and sea level rise. The data can also be used in other contexts, such as the evaluation of shingle resources within flood risk management applications; incorporating the scales of change that have been observed and allowing assessment of options for longer term adaptation to climate change. Whilst recognising the limitations of the work, this will inform strategic management activities which are undertaken.

European Dune Network

Sharing experience across borders

Newsletter Number 1: December 2010

Developing the European Dune Network

One of the initiatives of the Sand Dune and Shingle Network has been to revitalise the idea of a European Dune Network as an active international network. European networking was given a major boost with the first European Dune Conference held in Leiden in 1987 and follow up conferences in Seville and Galway organised by the European Union for Dune Conservation (EUDC). Although the EUDC became the Coastal and Marine Union-EUCC with its much wider marine and ICZM interest, dune managers and scientists have continued to meet and share experience during workshops, conferences and field visits, many of which have been linked to EU LIFE projects.

Although we have been promoting the idea of a European network at conferences for the last five years it was only in 2010 that we approached the Coastal and Marine Union-EUCC for its support in setting up the network. As reported in our last newsletter, EUCC Council has welcomed the initiative and we have now established both a presence on our website and on the EUCC website.

The next stage in the development of the network will be to build up a core group of contacts from each country, so that we can communicate effectively on opportunities for funding bids, networking and sharing good practice. See the pages at www.hope.ac.uk/coast/europe.html for more information.

The dune and shingle network is a habitat-based network and as such helps to support the work of other pan-European networks especially in relation to the challenge of conserving the Natura 2000 network. The EU Habitats Directive is a common factor driving conservation work in all EU Member States and the dune network has an interest in supporting this work. It is also good to know that we are not alone and there are similar European networks for heathlands and dry grasslands. Such networks can harness enthusiasm and passion for European nature whilst also giving opportunities for attracting funding.

Although most of our work and our members are UK-based, statutory agencies such as Natural England are interested in developing international links and we also know that there is reciprocal interest from many other European conservation bodies. We will continue to develop links with the European networking bodies Eurosite and Europarc and work with our members who are involved with these organisations.

Already we are very pleased with the response to our proposal and the forming of new links in the European network. We are pleased to see the development of an Italian dune network which has grown out of several LIFE projects and will establish a website in early 2011.

Paul Rooney was a keynote speaker at the conference on 15 November in Barcelona on the theme of 'metropolitan dune management: a European approach' and we will be working with the EUCC Mediterranean Centre and others to promote further European dune network activity in Spain. Presentations from the Barcelona conference can be found at www.sgm.cat

In this first European Dune Network update we have a report of the workshop of the Belgian LIFE project ZENO, an introduction to the serious threats to dune habitats in Bulgaria, summaries of several new EU LIFE projects and further news of projects in Italy.

Please get in contact with us on dunes@hope.ac.uk if you are interested in active participation in the European dune network or if you are holding an event which could contribute to the exchange of knowledge at international level. We would like to support at least two events a year held within the overall framework of a European network.

Panorama Noordwesthoek © Bert Buizer

International workshop on the Management of Dune Polder and Dune Marshland Transitions: Knokke-Heist, 7 October 2010

By John Houston

In October the Belgian LIFE-Nature project ZENO (Zwin dunes Ecological Nature Optimisation) held a workshop on the management of transition coastal habitats. Review papers were invited from Belgium, the Netherlands, France and England to give the meeting an international flavour and to encourage networking.

Through our work supporting the coastal Biodiversity Integration Group for England we were pleased to work with Sue Rees of Natural England and Angus Garbutt of the Centre for Ecology and Hydrology to present an overview of knowledge of transitional habitats and coastal species in England. A PDF of the paper is available on our website http://www.hope.ac.uk/coast#transitionspaper and also the full proceedings http://www.hope.ac.uk/coast/life-projects.html#zenoreport

The workshop was supplemented by excursions to the Belgian coast and French coast arranged through the dune network. A short report of the excursions has been prepared and can be accessed on the network website.

Discussions on the management of the fossil dunes of Ghyvelde © Guillaume Lemoine

Whilst the Belgian coast may be the most badly damaged coastline in north-west Europe there is a remarkable ongoing programme of restoration which began with the Dune Decree of 1993 and the writing of the 'Ecosystem view of the Flemish Coast' in 1996. The Flemish government, working closely with the NGO Natuurpunt, has driven forward ambitious restoration plans backed up by a policy of land purchase and a series of successful EU co-funded LIFE-Nature projects.

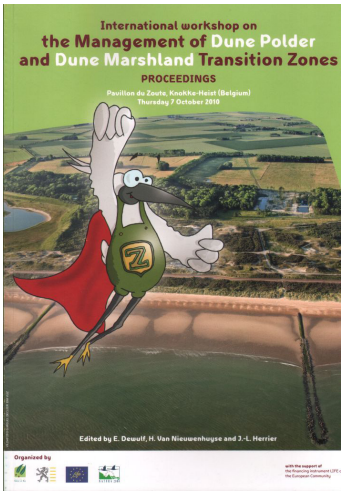
Along this coast the richest areas for nature were the transitions zones between the dunes and the polders where the seepage of calcium-rich dune water supported a range of wetland habitats. Sam Provoost, an author of the 1996 ecosystem view, reported on the strategic approach to the restoration of habitat transitions along the 65 km coast. Restoration work has been targeted on 14 out of 26 areas identified in the original plan. These sites cover 420ha (25% of the 1600 ha total dune area in Belgium) and average 30 ha in size.

Works have addressed transitions between saltmarsh and dune, decalcified dunes and polders, sharp and smooth boundaries between dune ridges and polders and the complex development of habitats in a former estuary. All these projects require a good understanding of hydrology in the dune/polder transition.

The works, mainly carried out through LIFE-Nature projects, have included saltmarsh creation, turf-stripping and sod cutting, creation and restoration of ponds, demolition of infrastructure, restoration of hydrology, woodland removal, mowing, grazing and restoration from arable fields.

What is particularly impressive in the approach is the sustained commitment to habitat restoration, working steadily through the initial list of sites, and the use of hydrological and ecological studies to support the programme. Some of the results were inspiring such as the restoration of 'old humid dune slacks' by removing alder and poplar plantations on former beach plains. Vegetation communities which had not been seen for perhaps 50 years have been re-established.

The work in Flanders highlighted some lessons such as the value of preparatory studies for hydrology, topography and soils, the need to understand hydrology, the importance of removing nutrients by mowing, grazing and removing silt from ditches, the value of the seed-bank (but also the challenge to maintain the species of the seed-bank), the connectivity between sites and the opportunities for e.g. hay transfer and, finally, the importance of monitoring.


International workshop on
the Management of Dune Polder
and Dune Marshland Transition Zones
PROCEEDINGS
Pavillon du Zoute, Knokke-Heist (Belgium)
Thursday 7 October 2010
Edited by E. Dewulf, H. Van Nieuwenhuyse and J.-L. Herrier
Organized by

The proceedings of the workshop, the review paper of transition coastal habitats in England (by Sue Rees, Angus Garbutt and John Houston) and the conclusions of the conference are all available on the network website and on the project website at http://www.natuurenbos.be/nl-BE/Projecten/Zeno/LIFE-nature_project_ZENO.aspx

Dunes under threat: an inventory of the dunes of Bulgaria

By Margarita Stancheva,
Bulgarian Academy of Sciences

Sand dune formations were widely distributed along the Bulgarian Black Sea but due to increased human activity the total area is constantly diminishing and dunes now comprise only 10% of the coastline, a total length of 38.6 km and total area of 8.78 km^2. A few larger dune areas are situated in the northern part of the coast and there are numerous dune complexes on the southern coast. The sand dunes along the northernmost shoreline are still well preserved, because the coast is mostly undeveloped in comparison to the south.

Northern dunes © Hristo Stanchev

The middle and southern parts of the Bulgarian coast are developed and large dune areas have been destroyed. Yet there are still protected sites on this coast without any illegally built infrastructures such as the dunes at the lagoon of Alepu Arkutino an area of 0.7 km^2 and maximum height up to 50 m.

Dunes at Alepu Arkutino ©Hristo Stanchev

There were similar wide sand dunes at many sites, destroyed in the 1960s, during construction of the famous Bulgarian resorts "Golden Sands" and "Sunny Beach". Most remaining sand dune areas are included in the lists of the Bulgarian Red Book, Biodiversity Law (2002) and in the Project "Preparation of the Bulgarian Natura 2000 Network of Protected Zones". According to the Black Sea Coast Development Act of 2008 the beaches and dunes are protected territories with six large dune sites under national law as specially protected areas.

Although such initiatives for dune preservation set down the regulations for their proper use there is a need for well developed management and monitoring measures on dune systems. There is no interaction between coastal scientists, planners and decision-makers, and most projects for new developments have been authorised without environmental impact assessments. As a result, major areas along the Bulgarian coast have been completely urbanised by hotels leading to destruction of dune systems. The greatest threat to sand dunes is the current development pressure in the coastal zone.

The main problems are;

- the increased urbanization of the coastal zone,
- a real-estate boom and development of hotels and other tourist infrastructure,
- the construction of roads/car parks of tourist facilities or holiday homes on dune areas,
- uncontrolled camping and "temporary" constructions on sand dunes,
- illegal sand extraction or mining,
- sand extraction for industrial uses and tourist constructions
- the "legal" classification of areas of protected sand dunes as agricultural land (which then allows easier development of hotels), and
- dune erosion due to insufficient sediment supply caused by the impact of hard protection structures in the coastal zone.

One of the most impacted sites is the area of Nessebar town, the Sunny beach resort. In the recent past, the large sandy strip of Sunny beach resort was characterised by a typical dune landscape related to the dominant NE and N winds. The coastal population of Nessebar has doubled between 1934 and 2008: from 11,838 to 21,142. At present, despite the protection status, many dune areas have been developed and thus the active dune areas have dramatically decreased.

This study to develop an inventory of the dunes of the Bulgarian coast was part of the Joint Research Project 'Coastal sand dunes along the Estonian and Bulgarian Black Sea shorelines: inventory and natural/human-induced changes' which will be presented at the ICS 2011 in Poland (http://www.ics2011.pl/).

EU LIFE projects

The European Union's LIFE fund has supported several large-scale dune restoration projects over the past 15 years. The funding from the European Commission puts a special emphasis on the dissemination of results and dune networks can help with this process. On the network website is a section on LIFE projects (see www.hope.ac.uk/coast/life-projects.html). The European Commission also maintains a searchable database of all projects from 1992-2010 http://ec.europa.eu/environment/life/project/Projects/index.cfm.

This year (2010) has seen the final events of several projects but also the start of new projects. In particular we are pleased to report here two new projects in the Netherlands and one in Belgium. We will follow the progress of these projects with interest.

Dutch dune revival: dune habitat restoration at three dune sites (LIFE09NAT/NL/000418)

The project, led by Natuurmonumenten with support of the Provincial Water Company of North Holland (PWN), will take place from 2010-2015 in the Natura 2000 sites of Voornes Duin, Duinen Goeree, Kwade Hoek and Kennemerland-Zuid.

Kwade Hoek © John Houston

In the three areas the objective of the 6.7 million Euro project is to set back succession to an earlier stage to create good conditions for the development of species rich grey dunes and white dunes, as well as humid dune slacks. Recent decades have seen the development of scrub, forest and rank grassland. After removal of this vegetation, the areas will be mown and /or grazed to maintain habitat condition. At Kennemerland-Zuid sand will be removed at five sites near to the sea to create active mobile dunes and conditions for the development of new dune slacks.

The project will lead to the restoration of 115 ha of grey dune, 22ha of dune slack, and over 15ha of mobile dunes and improvements to wider areas. Exotic shrubs will be removed to improve the quality of 640 ha of dune forest, grey dunes and dunes with *Hippophaë rhamnoides*.

Revitalising Noordduinen (LIFE09NAT/NL/000417)

The Noordduinen, in North Holland, has been intensively used for agriculture, military purposes and water extraction. The dunes lie within the Natura 2000 site, Duinen Den Helder Callant-soog where over 50% of the site is notified for grey dune habitat. The aim of the 1.5m Euro three-year project run by the NGO Stichting Landschap Noord-Holland is to revitalise the dune habitats by removing former military buildings, restoring dune hydrology, converting agricultural land into dune slack, tackling the invasive species Japanese rose *Rosa rugosa* and improving access.

Zwin Tidal Area Restoration (LIFE09NAT/BE/000413)

Following immediately after the successful ZENO project the Flemish government's Agency for Nature and Forests will begin work on their sixth LIFE project in January 2011. The 4.1m Euro five-year project aims to restore the rich biodiversity of the Zwin, the largest and most important tidal salt marsh in Belgium, with an area of 180 ha in Belgium and 27 ha in the Netherlands. Although much of the work will be focused on the restoration of intertidal and transition habitats there will also be actions for the restoration of 30 ha of mobile dunes, fixed dunes and dune slacks by turf-stripping and grazing.

Dune conservation in Italy

The LIFE project DUNETOSCA has prepared a detailed book of the project activity (in Italian) and also a layman's report in both Italian and English. Both reports are available at www.parcosanrossore.org (click on the section Progetto LIFE).

With several LIFE projects completed in Italy in recent years the project DUNETOSCA took the initiative to propose the establishment of an Italian dune network. The idea, proposed by Antonio Perfetti, was supported at an international conference held in the San Rossore Park, Pisa, in 2008. To further develop the 'San Rossore Agreement' a working group was established at a conference held in 2009 at the Regional Park Delta del Po to formalise the network. Information from subscribing members will be used to create a mailing list and the organization of technical meetings. An Italian dune network for coastal dunes is now active and a website will be live from January 2011. Further information from Antonio Perfetti at conservazione@sanrossore.toscana.it

The European Dune Network newsletter has been compiled by John Houston and Charlotte Durkin, Department of Geography, Liverpool Hope University, Liverpool, L16 9JD.

The newsletter is produced in association with the Coastal and Marine Union-EUCC.

Please contact us on dunes@hope.ac.uk
Websites: http://www.hope.ac.uk/coast/europe.html and www.eucc.net

UK site news

A year on the beach

Tim Smith, Shingle Officer for East Sussex County Council, has prepared an excellent DVD entitled "A year on the beach: an exploration of shingle habitats". The documentary charts twelve months in the life of the shingle beaches of East Sussex, following the lifecycle of the plants and animals that live on the beach through winter, spring, summer and autumn.

The DVD is being distributed to schools across the county to raise awareness of the special habitat. For more information please contact Kate Cole on kate.cole@eastsussex.gov.uk

Kenfig National Nature Reserve

Fen Orchid © Countryside Council for Wales

The October 2010 edition of British Wildlife (Volume 22:1) has an in depth article on the efforts at Kenfig to conserve one of the last remaining duneland sites for the fen orchid *Liparis loeselii*. In the article David Carrington, the reserve manager, and others describe how turf-stripping, mowing and grazing are being used to maintain the species presence until such time as perhaps new habitat can be created through natural processes. David has also developed a really nice website on the Kenfig National Nature Reserve. It is well worth a look on http://www.meadowgarden.co.uk/hometable.htm

Tentsmuir: wartime wagon emerges from the dunes

Tom Cunningham, reserve manager for the Tentsmuir National Nature Reserve reports on the discovery of a Second World War narrow gauge railway wagon exposed after high tides and storms eroded a section of dune in September 2010.

Hudson tipper wagon © Tom Cunningham /SNH

Tentsmuir is one of the most dynamic coastal sites in Britain. In the area where the wagon was found 150 m of dune have been lost over the last 12 years, but some 400 m to the south the coast has built up a remarkable 318 m in the same period.

The wagons were used to bring in supplies for building concrete coastal defences and were used by RAF Spitfire pilots as moving targets. The wagon would have been abandoned in 1945 and the actions of the sea, wind and an abundance of sand buried it along with sections of narrow gauge railway track. The wagon will be used as part of the site's Time Line interpretive project.

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Supporting education resources

As a network we are very keen to encourage and support the dissemination of messages about sand dunes to the general public and schools through education and interpretive programmes. We have considerable experience in this field ourselves. Sally Edmondson, for example, until recently a Senior Lecturer at Liverpool Hope University has been leading field trips to dune sites for over 30 years and is the co-author of the popular Field Studies Council guide to sand dune plants (http://www.field-studies-council.org/publications/pubsinfo.aspx?Code=OP43). In the early 2000s Liverpool hope University was also commissioned by Sefton Council to set up the Sands of Time http://www.sandsoftime.hope.ac.uk/ website to help secondary school students with fieldwork.

We are pleased to see many good examples of educational and interpretive materials around the regions and have started to list these on our website. We are particularly interested in supporting the generic messages which, for example, highlight the importance of a dynamic dune system and which celebrate the high biodiversity of these habitats.

Some examples of web-based materials include;

Cornwall County Council's information on dunes including their information and activity pack http://www.cornwall.gov.uk/default.aspx?page=13666

Snowdonia National Park Authority's information for schools visiting Morfa Harlech and Morfa Dyffryn http://www.eryri-npa.gov.uk/education/asa-level-introduction/sand-dunes

Virtual fieldtrip of the Magilligan dunes in Northern Ireland http://www.geographyinaction.co.uk/Magilligan/Mag_intro.html

The Field Studies Council's web-pages on coastal sand dunes and shingle http://www.theseashore.org.uk/theseashore/Sand%20dune%20section/sand%20dune%20intro.html and guide to fieldwork on http://www.geography-fieldwork.org/ecologyfieldwork/sand_dunes/stage1.htm

The Tenstmuir 'Life on the Sands' Education Pack is available at www.snh.org.uk/pdfs/publications/education/tentsmuir_nnr.pdf is designed to help teachers visiting this dynamic coastline. This has activities for children of all ages, especially young children, but also introduces values and attitudes towards dune coasts.

The Learning and Teaching Scotland website has information produced by the Macaulay Institute on sand dune succession available as a power-point or word document. http://www.ltscotland.org.uk/resources/g/nqresource_tcm4481726.asp

For sand dune and shingle shores the Beaches at Risk project has produced an education pack 'Dynamic Coasts' http://www.geog.susx.ac.uk/BAR/education.html

We have compiled a list of educational materials http://www.hope.ac.uk/coast/educational-resources.html linked to sand dune studies and will also offer our own resources as part of this dissemination of information. We are currently updating the Sands of Time website as an introduction to geomorphology, ecology and management of dune systems.

Useful guide to fieldwork

Sand Dunes:
A practical fieldwork manual
Montcrief and Norman
Field Studies Council 2010
Code: OP131
Price £5.00

The manual, published by the Field studies Council, has been written for students of Biology, Geography and Environmental Studies at AS/A2 and undergraduate level. Available from www.field-studies-council.org

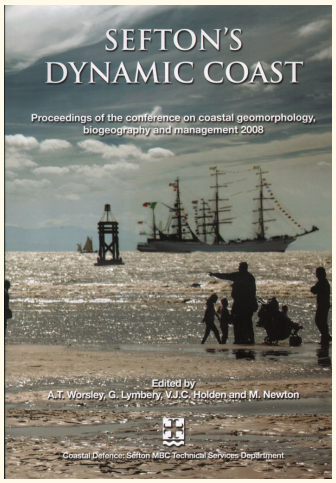
UK news round-up

Shifting Shores

See the latest film on how the National Trust is adapting to, and dealing with, climate change and sea level rise issues on some of its vulnerable properties.

The Trust has added a short film to its website about adapting to and dealing with climate change on its coastal properties at www.nationaltrust.org.uk/coastline. This includes information about the Trust's approach to adaptation through 'Shifting Shores'.

Sefton's Dynamic Coast


SEFTON'S
DYNAMIC COAST
Proceedings of the conference on coastal geomorphology, biogeography and management 2008
Edited by
A.T. Worsley, G. Lymbery, V.J.C. Holden and M. Newton
Coastal Defence: Sefton MBC Technical Services Department

The proceedings of the 2008 conference on coastal geomorphology, biogeography and management of the Sefton Coast have been published by Sefton Council within the framework of the Interreg IVB IMCORE project.

The proceedings are available for free download at http://imcore.wordpress.com/partners/sefton/

The published papers include updates of knowledge on the geomorphology of the sand dunes of the Sefton Coast, the predicted effects of climate change on dune slacks and ecological studies on dune slacks, the Birkdale green beach (a large primary dune slack) and species including sand lizard, mosses and liverworts and the northern dune tiger beetle. This is an excellent update on this important dune area.

Publication of Beach Management Manual

The second edition of the Beach Management Manual was launched by CIRIA in a series of regional road shows. The manual can be accessed on line through CIRIA at http://www.ciria.org/service/bmm_download (registration is required).

The first edition published in 1996 focused on the engineering aspects of beach management, whereas the second edition also considers a wide range of environmental issues and there is more on aspects of coastal ecology. The funding for the manual has come mainly from Environment Agency / Defra R&D funding and the project has been supported by Natural England. The advice in the manual also includes the experience from case studies.

Climate change continues to impact UK waters

The Marine Climate Change Impacts Partnership (MCCIP) annual report card 2010-2011 provides the latest updates on how climate change is affecting our seas. The report http://www.mccip.org.uk/media/7562/mccip-report-2010-2011.pdf includes a regional seas climate change impacts map, which highlights differences in climate change impacts across the UK regional seas. These maps show that whilst many impacts are being seen in southern UK waters, future climate change will lead to impacts across all UK regional seas. The report also takes a first look at how the UKCP09 climate projections can aid our understanding of future marine climate change impacts. More information is available on Natural England's website. http://www.naturalengland.org.uk/about_us/news/2010/150710.aspx

Visit to Liverpool Hope University by Professor Norbert P. Psuty

As a representative of the US Fulbright Senior Scientist Program, I had an opportunity to interact with the members of the Sand Dune and Shingle Network during October and to visit sites of potential future inquiry.

The visit to a variety of coastal dune sites in England, Northern Ireland and Wales provided an occasion to become familiar with areas of broad dunal topography and habitat as well as areas that were perched narrowly between the beach and some inland infrastructure. The major issues of impacts of sea-level rise and restrictions of ambient sediment supply were manifest in sites of foredune erosion and inland transfers of sediment through natural depressions as well as human-caused breaches. Issues of restoration of foredune processes, biogeodiversity, and human manipulation of the dune features were present in all of the sites. Certainly, there are continuing impacts under the drivers of negative sediment budget and displacement associated with global sea elevation and exposure to storm surge and inundation. But, there are also indications of accommodation to the changes and opportunities to maintain many of the geomorphological features and habitats as the foredune system dynamics interact with planned refuge management under a wide variety of organizational agencies.

Equally impressive as the geomorphology of the coastal dunes were the many organizations that were involved in the programs to gather data and contribute to an institutional Geodatabase. Many agencies, from local school districts, through local councils, to national representatives were active in the efforts to improve the understanding of the coastal dune systems and to protect and preserve the unique coastal system for future generations. They provide an excellent foundation on which to build a broad-based program.

Prof. Norbert P. Psuty, Rutgers University, New Jersey USA

International round up and links to other networks

Coastal Protection and Sea Level Rise

The Wadden Sea Trilateral Working Group on Coastal Protection and Sea Level Rise (CPSL) has concluded that spatial planning may present a flexible and sustainable tool to deal with the effects of sea level rise and that spatial planning measures may diminish the risk to the coastal population by reducing the damage likely from flooding and land loss - http://www.waddensea-secretariat.org/management/cpsl/cpsl.html.

The economics of climate change adaptation in EU coastal areas

The EU study provides insights into the state-of-play of actions to prepare Europe's coastal zones for the effects of climate change. The study includes specific reports for each of the 22 coastal Member States. http://ec.europa.eu/maritimeaffairs/climate_change_en.html

Europarc Atlantic Isles Group

The Coastal and Marine Working Group, chaired by Phil Dyke of the National Trust, has a membership drawn from many of the coastal protected areas in the UK, from the national conservation agencies and from NGOs. The group has recently published the report Coastal protected landscapes and the marine planning system.

The report, available from http://www.europarc-ai.org/ is the outcome of a workshop held in the UK in May 2010 to consider the implications for protected landscapes of the new system of planning and managing the marine environment, arising from the Marine and Coastal Access Act 2009. It includes case studies from UK protected areas and looks at the next steps in developing a manifesto for seascapes and the key tasks for all those involved in their management.

Eurosite

The Eurosite network exchanges, enhances and promotes expertise in the management of sites for nature, throughout Europe. It currently has 96 member bodies from 26 European countries. Although it is a members' organisation it has a useful website and through its Euro-Site-Manager section publishes free to access information under 'Insight Brussels' with reports on EU developments relating to the Birds and Habitats Directives, Natura 2000, the Common Agricultural Policy and other themes. See, for example, http://www.eurosite.org/files/EURO-SITE-MANAGER_2010_issue_4.pdf

National and international networking

The Sand Dune and Shingle network is a habitat based network driven by the aim to conserve sand dunes and shingle as dynamic landscapes supporting unique nature. For this reason we take an interest in all aspects of conservation and management work for these habitats in Europe.

There are other similar groups which focus on particular suites of habitats and we know that some of our members are members of other groups. We welcome these opportunities for broadening knowledge exchange. Two habitat based groups may be of particular interest.

The European Dry Grassland Group http://www.edgg.org/ is a network of dry grassland researchers and conservationists in Europe. Both inland and coastal dune vegetation will fall within the interests of this group. EDGG is based in Germany and is a Working Group of the International Association for Vegetation Science (IAVS). Its aims are to compile and distribute information on dry grasslands beyond national borders and to stimulate active cooperation among dry grassland scientists. The EDGG publishes a quarterly bulletin, http://www.edgg.org/publications.htm, maintains a website and organises meetings and expeditions.

The European Heathlands Network, whose website is hosted by Natural England at http://www.english-nature.org.uk/heathlands/ , encourages persons interested in research, conservation, policy and implementation in relation to European heathlands to meet, to network, to develop understanding of heathland ecosystems and to disseminate information as widely as possible. Its origins go back to joint French/ British meetings in the late 1970s and Charles Gimingham was one of its founders. For more information contact John Day at john.day@footprint-ecology.co.uk.

Links Golf Symposium: February 2011

As part of our Making Links project we will be bringing together a range of key stake holders at a meeting in February 2011 to identify environmental challenges in the management of links courses. If you would be able to contribute to this meeting please contact us at dunes@hope.ac.uk

This newsletter has been compiled by John Houston and Charlotte Durkin

Contact dunes@hope.ac.uk

Website www.hope.ac.uk/coast

Cover Photo: Remnants of Scot's pine Pinus sylvestris plantations being buried by advancing dunes at Formby Point, Merseyside © John Houston

The Sand Dune and Shingle Network is based at Liverpool Hope University and is supported by the Higher Education Funding Council for England and Natural England.

The IEEM Tony Bradshaw BEST PRACTICE AWARDS 2010 FINALIST

HIGHER EDUCATION FUNDING COUNCIL FOR ENGLAND hefce

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